Malaria in Urban Nigeria

Agatha Offorjebe
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Background

• Malaria is a disease caused by the parasite plasmodium and is transmitted to humans via the bite of an infected mosquito

• It is estimated that between 300-600 million cases of malaria infection occur each year

• An estimated 1.5-3 million malaria cases result in death, with these deaths occurring primarily in sub-Saharan Africa
Background (continued)

- Urbanization impacts malaria transmission dynamics
- Urbanization in SSA is a relatively recent phenomenon
- Prior to 1960 there were no African cities with over 1 million residents; today there are 40
- The UN estimates that by 2025 half of Africa’s population will live in urban areas with this percentage increasing to 52.9% (787 million) by 2030
Background (continued)

- Until recently, malaria in SSA has been considered primarily a rural disease because it was believed that suitable vector breeding sites would be scarce in highly populated areas.

- However, urban development in SSA has occurred rapidly, with little consideration in the planning of cities. Instead, poor housing, lack of sanitation, weak services and unprotected water reservoirs has accompanied urbanization in SSA.
Process

- Thesis Research in Nigeria
- Interning at Resources for the Future
Thesis Research- The Question

• Are there differences in the treatment and compliance rates of antimalarials in rural and urban communities of south-east Nigeria?

• If so, what are the primary reasons for this difference? What are the major factors that contribute to compliance and non-compliance in rural and urban communities of south-east Nigeria?

• Finally, how will the findings of this study shape malaria drug treatment and prevention programs in rural and urban communities in south-east Nigeria?
Aim of project: The aims of my research project are three-fold, (1) to discover whether there are differences in compliance between rural and urban communities in south-east Nigeria, (2) if there are differences, to understand why they exist and what factors contribute to them, and (3) to uncover how malaria drug compliance campaigns may be similar and differ between these rural and urban communities.

Objective: To develop strategies that will lead to better treatment success among children diagnosed with malaria in Nigeria.
Resources for the Future - The Question

- Does urban-rural population movement affect the emphasis that has been placed on malaria control efforts in rural communities?

- If so, how does this interaction of urban and rural populations affect malaria transmission and where malaria control efforts should be directed?
Resources for the Future-Aims and Objective

• **Aim of project:** The aim of the project is three-fold, (1) to describe the malaria transmission in Dar es Salaam, Tanzania and its surrounding peri-urban and rural communities, (2) identify data sources that describe population movement between these three settings, and (3) to use the aforementioned information to determine where malaria control efforts should be directed

• **Objectives:** To use simple modeling of urban-rural population movement to determine where malaria control efforts should be directed
Bed Net Usage in Nigeria

- Based on most recent Demographic Health Survey (DHS) in 2003, bed net usage was much lower in urban than rural areas.

- This trend is the reverse of what we see in other African countries.

- Why is this the case? How do we begin to understand this trend and what needs to be done to change it?
Lessons

• Must be flexible and prepared for the unexpected when conducting a research project

• Must learn how to make the most with a limited amount of data
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Resources


